Project Design Phase-II Technology Stack
(Architecture & Stack)

Date	20 october 2023
Team ID	NM2023TMID06862
Project Name	Subscribers Galore: Exploring the World's Top YouTube Channels
Maximum Marks	4 Marks

Technical Architecture:

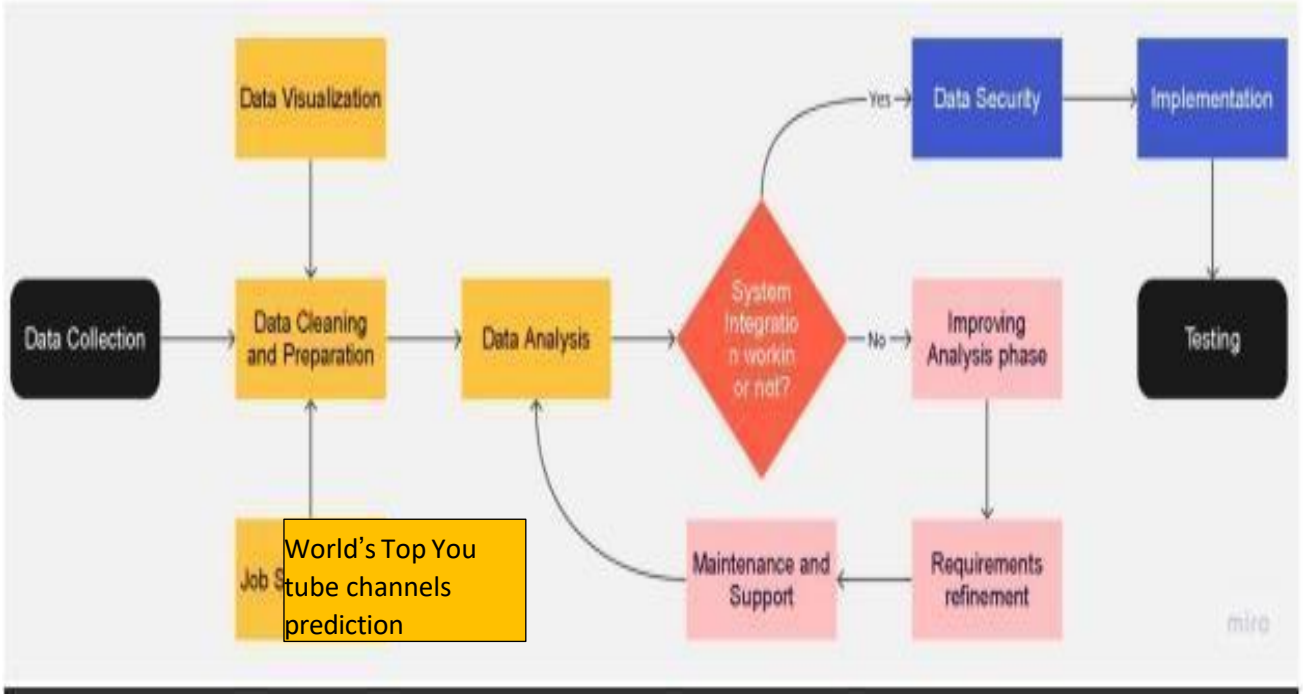

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User Interface (UI): The user interface components are responsible for providing an intuitive and visually appealing experience for your YouTube channel management system. This includes web pages, mobile app screens, and other interfaces for content creation, management, and user interaction.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Application Logic-1, Application Logic-2, Application Logic-3: These components represent the core application logic of your system. Application Logic-1, Application Logic-2, and Application Logic-3 can be modules or services responsible for functions like video recommendation algorithms, user authentication, content scheduling, and user engagement features. They control the behavior of your	Java / Python
3.	Application Logic-2	Application Logic-1, Application Logic-2, Application Logic-3: These components represent the core application logic of your system. Application Logic-1, Application Logic-2, and Application Logic-3 can be modules or services responsible for functions like video recommendation algorithms, user authentication, content scheduling, and user engagement features. They control the behavior of your platform.	IBM Watson STT service
4.	Application Logic-3	Application Logic-1, Application Logic-2, Application Logic-3: These components represent the core application logic of your system. Application Logic-1, Application Logic-2, and Application Logic-3 can be modules or services responsible for functions like video recommendation algorithms, user authentication, content scheduling, and user engagement features. They control the behavior of your	IBM Watson Assistant
5.	Database	Database: The database component stores and manages the structured data required for your YouTube channel management system. This includes user profiles, video metadata, analytics data, and other relevant information.	MySQL, NoSQL, etc.
6.	Cloud Database	Cloud Database: To ensure	IBM DB2, IBM Cloudant etc.

		scalability and data redundancy, you might choose to host your primary database or backup data in a cloud database service like Amazon RDS, Google Cloud SQL, or Microsoft Azure SQL Database.	
7.	File Storage	File Storage: This component is used to store video files, images, thumbnails, and other media assets related to your YouTube channel. Consider cloud-based storage solutions such as Amazon S3 or Google Cloud Storage for cost-effective and scalable file storage.	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	External API-1, External API-2: External APIs are essential for connecting to third-party services or platforms. For a YouTube channel management system, you might integrate APIs for social media sharing, video analytics, or payment processing if you plan to monetize your content.	IBM Weather API, etc.
9.	External API-2	External API-1, External API-2: External APIs are essential for connecting to third-party services or platforms. For a YouTube channel management system, you might integrate APIs for social media sharing, video analytics, or payment processing if you plan to monetize your content.	Aadhar API, etc.
10.	Machine Learning Model	Machine Learning Model: If you're implementing machine learning for content recommendation, user behavior analysis, or video tagging, this component represents the machine learning models and frameworks used in your system.	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Infrastructure (Server / Cloud): The infrastructure component encompasses the servers or cloud services that host and run your YouTube channel management system. You might use cloud platforms like AWS, Azure, or Google Cloud, or physical servers depending on your infrastructure needs.	Local, Cloud Foundry, Kubernetes, etc.

Table-2:Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-Source Frameworks: Leveraging open-source frameworks can help reduce development costs and accelerate the project's timeline. Utilize frameworks and libraries like Django, Flask, React, or Angular for building various components of your YouTube channel management system.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Security Implementations	Security Implementations: Security is paramount to protect user data, content, and the integrity of the system. Implement security measures such as authentication and authorization controls, data encryption, and regular security audits to identify and address vulnerabilities.	Java / Python
3.	Scalable Architecture	Scalable Architecture: Design the system with scalability in mind to accommodate growth in users and content. Implement scalable architecture patterns, such as microservices or serverless computing, to ensure the application can handle increased loads and traffic without performance degradation.	IBM Watson STT service
4.	Performance	Performance: Prioritize performance optimization to deliver a seamless user experience. Optimize database queries, use content delivery networks (CDNs) for media assets, and employ caching strategies to reduce load times and improve overall system responsiveness.	IBM Watson Assistant